



# ***The Resonator***

**Official Newsletter of The Fair Lawn (NJ) Amateur Radio Club**

**Volume 9, Number 8**

**[www.FairLawnARC.org](http://www.FairLawnARC.org)**

**August 2024**

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## **Fair Lawn's 100<sup>th</sup> Birthday next month**

March 6, 1924, Under Chapter 46 of the Laws of 1924, by the Senate and General Assembly of the State of New Jersey, a portion of the township of Saddle River, county of Bergen, hereinafter set forth and described are hereby constituted and declared to be body corporate in fact in law by the name of "Borough of Fairlawn."

"Oyez, Oyez!", the Borough's Town Crier announced to draw attention to deliver the news of the birth of Fairlawn.

On Sept. 22<sup>nd</sup>, Fair Lawn plans to have a town celebration of the town's 100<sup>th</sup> anniversary, and they have invited FLARC to be part of the celebration. David KD2MOB is a member of the town's planning committee for this event.

While the town's website has very little info about this so far, FLARC has only seven weeks to make plans for whatever we are going to do – and you know how fast weeks vanish these days!

There have been some discussions among FLARC as to what we could/should do for this event. For example –

- Set up a display booth at the Sept. 22<sup>nd</sup> event, similar to what we've done at previous street fairs, but this should showcase the history and development of FLARC over the years. After all, FLARC itself is 68 years old!
- Operate a Special Event Station at the booth.
- Operate a week-long special event commemorative on-air activity, with members operating from home and/or from the club station – using special event call sign(s).
- Use multiple special event call signs during the week on-air activity, and issue a special certificate to those who work all the special

Continued on next page.

**Remember:  
Ham Radio Is a Contact Sport!**

## Fair Lawn's 100<sup>th</sup> Birthday, con't

calls [with maybe a bonus for working W2NPT during that time span]. (Our license trustee, Jim W2JC, has already obtained special permission for us to use FOUR SES calls during that week – K2F K2L K2N and K2J).

This is an ambitious set of goals for the club. Each one will need planning and coordination, as well as members to enthusiastically participate. And we have only seven weeks to pull it all together.

Why should we put so much effort into this?

Aside from the obvious answers such as showing off the club, being the 'dx' station for those vying for the certificate – or just collecting Special Event contacts, and being something ALL our members can get involved with and have fun with... there are some other important reasons we should do it –

- The club has been active in Fair Lawn NJ for 68 years
- For ALL of those 68 years, the town of Fair Lawn has sponsored FLARC – at the minimum by supplying a place to meet and have some radios
- For several decades, the town has provided us two rooms in the excellent Community Center building which were designed and equipped to give us the power and infrastructure we need
- Very few other ham radio clubs in the state [and maybe even the country] can boast having FIVE operating stations as well as roof access for our antennas
- The town provides us access to Memorial Park and the Senior Center just about any time we ask to use them
- Most town residents don't even know the town HAS an amateur radio club [or even what ham radio is about!] and participation on Sept. 22<sup>nd</sup> will help to inform them

FLARC has 140 registered and paid members at this time – and among those members are a multitude of skills and interests, many of which will be valuable to make this ambitious project a success.

Skills such as what?

- ❖ Interest in town, and club, history
- ❖ PR (Publicity) skills to advertise what we will be doing – to the town and to the ham radio world – before, during and after the event
- ❖ Graphic design of displays for the booth, to show FLARC history
- ❖ Meeting people at the booth and enthusiastically telling the many aspects of ham radio
- ❖ Spending time on-the-air, at home or the club, being one or more of the 'special event' stations. The time and frequencies can be your choice! (first to sign up gets the best times and spots...)
- ❖ Graphic design of the special certificate and maybe QSL card(s)
- ❖ Someone to coordinate the times, frequencies and modes of the volunteer operators
- ❖ Someone to 'manage' the whole exciting project, so it all comes together successfully

Think about the above list and which things you can show off your talents and skills with.

Watch the club emails for more info about plans and needs. We can make FLARC look great to the town, as well as supporting and showing our gratitude to the Fair Lawn Parks & Recreation Department – which supports us in so many ways.

**If you want to be involved from the start, just send an email to [BOARD@FAIRLAWNARC.ORG](mailto:BOARD@FAIRLAWNARC.ORG) and say "Count me in for the Celebration!"**



**Notable Hams**

by Jim Jalil W2KNG

This column features notable hams both past and present. This month we will feature a ham who may not be well known now, but was once one of the most famous hams in the world. We are referring to Ernst Teodorovich Krenkel **RAEM** (yes that was his call... a special call sign awarded him for reasons disclosed later in this column).



Ernst Krenkel RAEM

Ernst Krenkel (1903-1971) was born in Belostock, Russia. In 1921 he graduated from a Russian technical school, earning a certificate for copying Morse Code at 30 wpm. After graduating from the technical school, Ernst joined the Red Army and was put to work as a “telegraph” operator. However Ernst wanted to be a “wireless,” that is radio, operator. The most glamorous radio operator position at the time was a ship’s “wireless” operator. To try to obtain that position, he transferred from the Red Army to the Red Navy. He did not immediately get a ship’s “wireless” berthing, however; but he did get something much better. In 1924 he was assigned to a remote island in the arctic as the expedition’s radio operator. From that beginning he went on to become one of the most famous arctic explorers of the early part of the 20th century.

In 1926 the Soviet Union laid claim to all lands north of the Russian coasts, as far as the Bering Straits. Expeditions were sent to explore these arctic regions and reinforce these claims. An important part of these expeditions was to explore the possibility of

finding a sea passage so that raw materials could be transported from Siberia to Russian ports in the North Sea by ship, avoiding the overland route.

Ernst was actively involved in these ventures as the radio operator, both on land and on ships. He served Soviet polar research stations at Matochkin Shar, on Novaya Zemlya, on Franz Josef Land and on Severnaya Zemlya off the north coast of Siberia. He remained an active arctic explorer and radio operator through the late 1920s and into the late 1930s.

Ernst Krenkel came to international fame as the radioman on the drifting ice station “North Pole” in 1937–1938. The ice station **North Pole** drifted for a record 274 days from the North Pole to Greenland, a distance of 1600 miles, obtaining important scientific observations from that high latitude.

While on the drifting ice station he set a world record by establishing a long-distance radio communication between Franz Josef Land and Antarctica.



For nine months Ernst kept the world informed by radio of what life was like on an ice floe in the Arctic Ocean, not far from the North Pole. Not only were his reports received in Moscow, they were relayed around the world to an anxious public. For a brief while, he was the most famous radio operator in the world.

When the crew on the floating ice station were finally rescued on February 20, 1938 The New York Times editorialized:

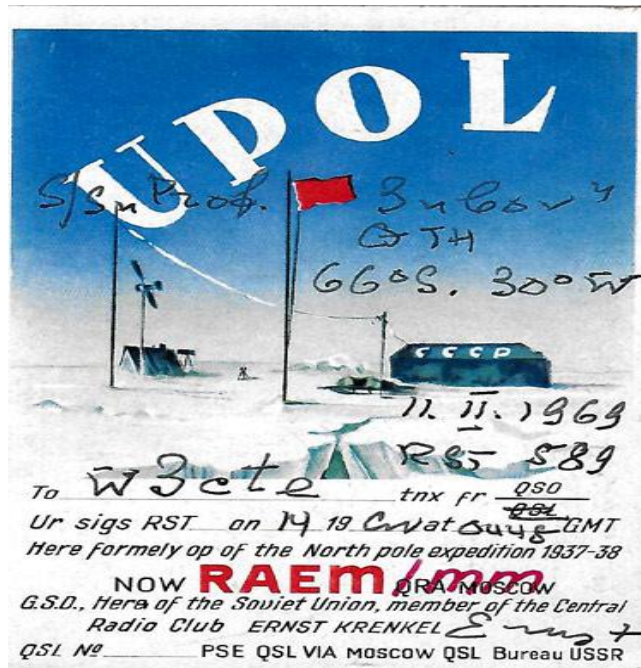
“Mankind does march on, despite the hatreds and greed that mark contemporary international politics. Hail... Papinin, Shirshov, Federov, Krenkell (sic) [the crew of ice station “North Pole”]. The world already adds your names to those of the pioneers who have crept over sea and land, plumbed the depths, risen into the stratosphere, all to discover what this planet is and how we human beings can make the most of it.”

Continued on next page.

## Notable Hams, continued



Ernst Krenkel RAEM in the Arctic



For his work in the arctic and especially on the ice floe station North Pole, Ernest Krenkel was honored by being made a *Hero of the Soviet Union*, the highest distinction and award possible in Russia at the time.

To give you an idea of the immensity of the honor, after WW II the award was given to Georgy Zhukov, the commanding general of the Red Army. Along the way Ernst, was also awarded two *Orders of Lenin*.

Ernst Krenkel was a lifelong ham. He held the following calls : **EU2EQ**, **U3AA** and **UA3AA**. However his most famous call was **RAEM**. This had been the call sign of his former ship SS Chelyuskin, lost in the Arctic Ocean in 1934 (where he played a heroic role as radio operator, sending messages as the ship was being crushed by the ice). The Soviet Government created this non-traditional call sign just for him, a very high honor indeed. He was also given the title of *No.1 Radio Amateur in Russia* and was known as "The Radioman of the Arctic."

Older hams may recall the famous address "Box 88, Moscow." That was the address to which all QSL cards to Russia were to be sent. This was the address of the Central Radio Club of Moscow.

For many years the Chairman of the famous Central Radio Club of Moscow was none other than Ernst Krenkel RAEM., the No. 1 ham in the Soviet Union.

Ernst Krenkel died on December 8, 1971. He was so beloved by the Russian people as an arctic explorer and radio operator that a bay on the coast of Komsomolets Island and one of the islands in the Severnaya Zemlya archipelago were named after him.

A polar hydro-meteorological observatory at Franz Josef's Land, a Communications Electro-Technical College in St. Petersburg and a weather research vessel of the Hydro-meteorological Service are also named after him.

For decades Ernst Krenkel was the most famous amateur radio operator in Russia and one of the most famous hams in the world. He took amateur radio with him wherever he went and was proud to be ham. His fame may have faded over the years but he deserves to be remembered — especially by us, his fellow hams.

**Ernst Teodorovich Krenkel, RAEM SK**





During last month's Field Day many members may recall that just as the time came to prepare dinner the heaven opened up and it poured. The Chair of the Food and Beverage Committee, who also served as head cook, stood in the rain bravely trying to grill hot dogs and hamburgers until the coals were extinguished by rain. Undaunted he went home to finish preparing food for the assembled multitude in his own kitchen. For these heroics, Skip KD2BRV, was presented with formal Chef's Hat at the August meeting which he donned to thunderous applause.

Steve WI2W proclaimed:

Tonight, we are going to recognize one person in particular for his outstanding contribution to our successful Field Day and his unmatched devotion to the mission he took upon himself. This person demonstrated this unwavering commitment to our Field Day crew like a bulldog latched onto a mailman's leg.

Nothing, and I mean nothing was going to stand in his way to provide us with life giving ice cold water and nourishment in the face of everything that mother nature could throw at him. Temperatures in the 90s, hurricane force winds, and even a torrential downpour, as he steadfastly manned his station in front of the grill preparing our dinner.

Yes, I am talking about Skip Barker, KD2BRV.

The Man. The Myth. The Legend.

As the rest of us were huddled together under the protective shield of the pavilion, there stood Skip, alone, seemingly unfazed, as the rains, lightning, and thunder crashed all around him.

Slowly, the grills started to fill up with water extinguishing the coals one by one, until the last bit of fire was gone.

Who can forget the image of Skip standing there by himself, in front of the grill, soaked and drenched as the sky's continued to unleash their fury.

But Skip stood fast, stoically, unwavering, like he was guarding the tomb of the unknown soldier.

A lesser man may have given up at this point, defeated by forces outside of his control - but not Skip. Unfazed by the calamity surrounding him, Skip gathered up his tools and supplies and proceeded to his stallion, er car, and went home to finish preparing our dinner in his kitchen, returning with freshly prepared, and dry, hot dogs and hamburgers for our nourishment and enjoyment.

So Skip, please come forward and accept a token of our appreciation for your service to our Field Day team.

## ***The Resonator* Is Now Archived!**

Ever wanted to search for something in *The Resonator*? Maybe a member profile. Perhaps a past Street Fair. Even who participated at Field Day in 2017.

Now you can. *The Resonator* has now been accepted as part of the Digital Library of Amateur Radio and Communications. DLARC is a project of the Internet Archive (the not-for-profit online library best known for *The Wayback Machine*.) DLARC is growing to be a massive online library of the past and present of ham radio and related communications. It is funded by a grant from Amateur Radio Digital Communications.

When you need to find something, go to:  
<https://archive.org/details/flarc-resonator>

You can use the search "text contents" field to do a full-text search on all issues or click "Date Published" to see them sorted by publication date.

You know our little newsletter is cool.

Now a lot more hams around the world will as well.

## **Get Direct With FLARC!**

Here is a direct link to specific club info: just a click away!

<http://apparel.FairLawnARC.org>  
<http://auction.FairLawnARC.org>  
<http://blog.FairLawnARC.org>  
<http://calendar.FairLawnARC.org>  
<http://events.FairLawnARC.org>  
<http://exams.FairLawnARC.org>  
<http://facebook.FairLawnARC.org>  
<http://news.FairLawnARC.org>  
<http://swap.FairLawnARC.org>  
<http://tech.FairLawnARC.org>  
<http://youtube.FairLawnARC.org>

<https://groups.io/g/FairLawnARC>



## **Online License Testing!**

Are you looking to get your license or upgrade without leaving your home? All you need is a laptop computer with a video camera.

Please check out <http://hamstudy.org/session/K2sab> for session information.

If you have any questions, please contact me at [k2sab@arri.net](mailto:k2sab@arri.net)

73,

Steven Boston K2SAB

# The Fair Lawn Amateur Radio

Why is FLARC New Jersey's Most Exciting Radio Club?

## Annual and Special Events



- Field Day
- Winter Field Day
- World Amateur Radio Day
- Portable Day
- Earth and Environmental Days
- Field Trips
- Club Exchanges
- Special Events
- Public Service Activities
- Public Events
- Ham fests and Auctions
- Foxhunts
- Contests
- Youth Activities and more



## There Is Something Every Night At FLARC!

Monday: Near and Far Net

Tuesday: DMR Net and Open House at the clubhouse

Wednesday: ARES/RACES Net

Thursday: Tech Net

Friday: Open House at the clubhouse or *Kawfee Tawk* Speaker Series (Monthly via Zoom)

Weekends: Open House at the clubhouse, POTA and other station activations, Contests, Foxhunts



## Special Interest Groups

- Portable Ops (POTA, SOTA, etc.)
- DX: Chase the rare ones
- Digital Voice: DMR and other modes
- FT8: Plus, other WSJT modes
- Satellite: Also, for weather interests
- Monitoring: SWL and other listening
- Contesting
- EMCOMM
- Radio Direction Finding
- Raspberry pi, Arduino



## Plus:

- A five-position operating station clubhouse
- An active repeater—W2NPT linked with NJ2BS.
- New antennas on the roof
- Monthly VE testing
- An award-winning newsletter
- Monthly speaker programs
- Educational programs and activities
- Active in-person and social networking
- An extensive video education archive

## That is Why FLARC Is the Most Exciting Club Around!

Come join us in-person or via Zoom for more activities, speakers, and projects!

[www.fairlawnarc.org](http://www.fairlawnarc.org)



**The Club** Fair Lawn ARC is the fastest growing ham club around, with five operating positions in a permanent clubhouse. Visitors and guests are always welcome. The club is open every Friday night, except when there is a Business Meeting scheduled, from NLT 6:30 PM. Business meetings are the first Friday of the month at 7:30PM.

### 2023 Officers, Committees and Assignments

President	Fred Belghaus	KR2H
Vice President	Robert Marchini	KD2SOG
Treasurer	David Gotlib	KD2MOB
Secretary	Jim Jalil	W2KNG
Trustee	Brian Cirulnick	KD2KLN
Trustee	Judith Shaw	KC2LTM
Trustee	Lowell "Van" VantSlot	W2DLT
Member Services		
Health & Welfare	Judith Shaw	KC2LTM
Marketing	Nomar Vizcarrondo Jim Cooper	NP4H W2JC
Program	[open]	
Video/YouTube	Thom Guida	W2NZ
Social Media	Brian Duddy	N2BTD
	Thom Guida	W2NZ
	Dave Marotti	NK2Q
Photographer	Giovanni Lucero	K2GIO
	Robert Marchini	KD2SOG
Community Relations	Gene Ottenheimer	WO2W
	Dave Gotlib	KD2MOB
Field Day2025	[open]	
Winter Field Day 2025	Noel Pagan	W2MSA
Hamfest	Gene Ottenheimer	WO2W
Auction	Brian Cirulnick	KD2KLN
Activities Chair	Judith Shaw	KC2LTM
Education	Paul Brennan	N6FB
Youth Outreach	Robert Marchini	KD2SOG
Adult Outreach	Lowell "Van" VantSlot	W2DLT
	Jim Cooper	W2JC
VE Testing Coordinator	Gene Ottenheimer	WO2W
Special Events	James Gallo	KB2FMH
Contests	Lowell Vant Slot	W2DLT
FLARC Historian	Fred Belghaus	KR2H [W2AAB]
Webmaster	Jim Cooper	W2JC
Technical Chair	Dave deCoons	WO2X
EmComm	Jim Breheny	N2JLF
RACES/ARES Director	Dave Gotlib	KD2MOB
RACES/ARES Liaison	Steve Wraga	WA2BYX
Newsletter Editor	Jim Jalil	W2KNG
Newsletter Publisher	Jim Cooper	W2JC
Club Station Manager	Noel Pagan	W2MSA
Quartermaster	Fred Wawra	W2ABE
W2NPT Trustee	Jim Cooper	W2JC
NK2H Trustee	Ed Efchak	WX2R

President serves as ex officio to all committees

## Want a Call Sign License Plate?

Amateur Radio (Ham operators) license plates may be purchased for a \$15 fee, for passenger vehicles, but not for commercial vehicles or motorcycles. (Applicants must be licensed by the Federal Communications Commission.)

Call MVC at 609.292.6500 or (toll free in NJ) 888.486.3339 to request an application.

The club has applications from time to time. If you would like an application, visit the "contact us" page, and we'll get one out to you.. or find the form and detailed instructions at:

<https://www.state.nj.us/mvc/pdf/vehicles/SP-23.pdf>



## Letters:

### A New Addition to *The Resonator*

The editor has received a lot of nice notes, letters and comments about this newsletter and the club in general. We have not published them in the past but going forward we will at least try.

### Here are the grounds rules:

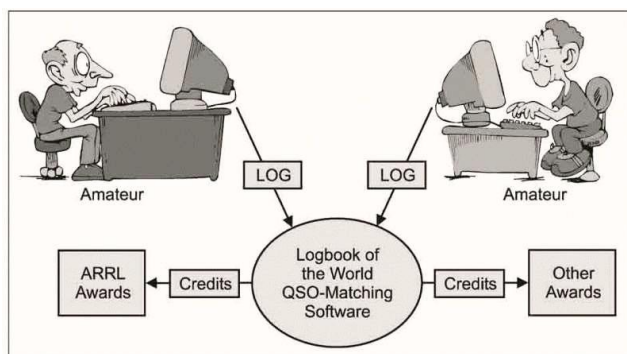
- Please keep all comments as brief and succinct as possible.
- No personal attacks.
- No political rants.
- No comments promoting violence, racism, religious intolerance, vulgarity, obscenity, or other such discourteous behavior.
- The Editor reserves the right to exclude any comments that violate our guidelines and may subject the writer to further disciplinary action by the club.



# A QSL card is the final courtesy of an amateur radio contact.

**PAY YOUR DUES NOW!**

[https://en.wikipedia.org/wiki/QSL\\_card](https://en.wikipedia.org/wiki/QSL_card)



Those who upload logs to Logbook of the World become eligible to redeem confirmation credits for awards. LoTW wants and needs *all* logs. Uploading is free, so send your logs today!

## NOTE:

While LoTW is back on line and seems to be perking along just fine, we're advised that the DXCC part and application process is not yet restored. If you have plans to apply for DXCC, or endorsements, be patient and wait for announcement to proceed.

## Follow FLARC ON THE WEB

**Facebook:** <http://facebook.FairLawnARC.org>

**Twitter:** @FairLawnARC

**Youtube:** <http://youtube.FairLawnARC.org>

**Website:** <http://FairLawnARC.org>

## SIG Group Membership as of July 27, 2024

Here is an update on the roster of Special Interest Groups... many groups have increased in size during the last month. About 45% of all members have joined at least one group.

<u>SIG Name</u>	<u>Leader</u>	<u>#</u>
Contesting	W2DLT	14
Digital Voice		30
EmComm	N2JLF	13
Monitoring	WX2R	25
DX	W2JC	18
FT8	W2JC	22
Satellites	N2AAM	20
Portable Ops	W2MSA	48
Radio Astronomy	WX2R	4
Raspberry pi		7
Direction Finding		6
<b>FLARC General</b>		<b>174</b>

Sign up for a group... or ...  
why not start one?

Contact [webmaster@FairLawnARC.org](mailto:webmaster@FairLawnARC.org)  
if you would like to start a new



# The Clubhouse Is Open Four Fridays In August!!

Date	Clubhouse Status
August 2	<b>CLOSED</b> – Business Meeting at Fair Lawn <b>Senior</b> Center
August 9	<b>OPEN</b>
August 16	<b>OPEN</b>
August 23	<b>OPEN</b>
August 30	<b>OPEN</b>



**Pop-Up Tuesdays are now in-person at the club  
as well as in the Zoom-room.**

The club will follow all borough COVID-19 requirements for these events.



## Editor's Corner

Last month the topic was safety. Perhaps one aspect of safety deserves its own discussion, as it has hit close to home recently.

At one level ham radio is a solitary endeavor. We sit in our shack and communicate with other hams whether locally, internationally or even up in space.

We follow whatever modes and methods of communication strike our fancy at that moment. That is the essence and the joy of being a ham... communicating by radio. But by and large we do that on our own.

Some hams enjoy portable operation. One very popular aspect of portable operation is POTA activation. Some hams enjoy the company of other hams at a portable site, but more often than not, again, we do that on our own.

Of course other aspects of ham radio are far from solitary. Examples of these types of activities are Field Day, hamfests and of course participation in a ham radio club such as our own FLARC.

We need to add another aspect of ham radio that should never be solitary, and that is putting up or working on an antenna.

Those of us who were in boy scouts or girl scouts will well remember that when we went swimming at a scouting camp or event we were invariably instructed never to swim alone and always use the "buddy system."

The reason for this was obvious and self evident even to the young scouts themselves. If a swimmer became cramped or for some reason found himself or herself in trouble, the buddy (who if he or she was a good scout and had paid attention when earning a swimming badge) was there to assist and prevent a tragedy.

Swimming is enjoyed by millions and is even an Olympic event. We put small children in pools (though under watchful eyes) and encourage older children to learn to swim in order enjoy the water on their own. No one has an issue with that.

But one cannot ignore the fact that at some level being in water over our heads can be dangerous and

even life threatening. Therefore all swimmers need to be mindful of the inherent danger.

Likewise every ham has put up an antenna at one time or another and most hams can claim to have put up dozens and dozens of antennas over the years. Putting up an antenna is like being in water over our heads. It is enjoyable and to be encouraged; but, like swimming, one must be ever mindful of the danger.

Just because there is some danger does not mean that putting up an antenna, like swimming, should be avoided. Completely to the contrary.

Just as parents encourage swimming even by children, we as hams encourage one another to put up and experiment with antennas. But, again as with swimming, we must be very mindful of the inherent danger and take steps to mitigate that danger.

To that end we need to take a page from scouting and encourage every ham to use the buddy system when working on any antenna project.

One of the benefits of belonging to a ham radio club, and this is certainly the case here at FLARC, is that whenever a ham asks for help, even if just to be present, there is never any hesitation or lack of response from fellow hams.

Putting up or working on an antenna, no matter how small or low off the ground, should never be a solitary ham radio activity. When it comes to antennas, no one should be a lone ranger ham... even the real Lone Ranger had Tonto.

When putting up or working on an antenna, always use the "buddy system." Even if the buddy is there just to watch or spot you on a ladder, he or she will be there should the worse happen – and may even prevent such an occurrence by offering some sobering counsel when we try something... impractical.

Use the buddy system. Ham radio is too much fun to lose even a minute to injury.

Jim Jalil W2KNG



The Westchester Emergency Communications Association  
Box 831 Sleepy Hollow, NY 10591  
[www.weca.org](http://www.weca.org)

## Entry Level Ham Radio License Class This Fall!

**2024 In-Person and Zoom Classes start Tuesday evening, September 11<sup>th</sup>**

Have you ever thought about becoming an Amateur Radio “Ham” operator? Here is a great opportunity to learn about Ham radio and to study for your FCC license with seasoned Ham radio operators as your teachers and mentors!

The Westchester Emergency Communications Association (WECA: [www.weca.org](http://www.weca.org)) is proud to sponsor a **free** Technician Class License course, **in-person** at the Westchester Fire Training Center, 4 Dana Road, Valhalla, NY 10595\*\* and also **on Zoom**. Take your first steps and join the exciting world of Amateur Radio. Enjoy talking to other Amateur Radio Operators, near and far! Want to experiment with new technologies that utilize computers interfaced with radios? Would you like to join forces with county government and local volunteer organizations as Amateur Radio Operators for Emergency Communications assistance and Public Service events? Take your first steps by joining us for this interactive course taught by a team of knowledgeable Amateur Radio Operators with a passion for their subjects.

*You can get an Amateur Radio Technician FCC license by passing a 35-question multiple-choice examination. **No Morse code test** is required! The exam covers basic regulations, operating practices, and electronics theory, with a focus on VHF and UHF communications. All information needed to pass the test will be covered in this course.*

The required text is the “*ARRL Ham Radio License Manual 5<sup>th</sup> Edition*”. The book includes all questions in the test pool and access to on-line practice tests. An accompanying text, “*ARRL’s Tech Q&A 8<sup>th</sup> Edition*” may be helpful, but is not necessary. These are available from:

- ARRL, <https://home.arrl.org/action/Store/Product-Details/productId/2003373064>  
860-594-0200
- Gene, KJI Electronics, Cedar Grove, NJ, Call or text him at 973-571-1930
- Amazon, [www.amazon.com](http://www.amazon.com) Be **sure** to order the correct editions.

Please obtain the license manual and begin reading.

**Classes will start on Tuesday evening, September 11<sup>th</sup>** and run for nine weeks mostly on Tuesday evenings from 7-9:15 PM ET. FCC license testing is available at various locations (typically \$15 test fee). If you or someone you know would like to **become an FCC licensed Radio Amateur**, please contact me by email at [Education@WECA.org](mailto:Education@WECA.org) so I can register you and provide additional information. All are welcome to attend who wish to gain knowledge of amateur radio even if you do not expect to take the test. Licensed amateurs who would like to brush up on the subjects covered are also welcome.

**Larrie Sutliff W2UL**

**WECA Education Director**

\*\* Classroom students: We enter the Fire Training Center through the rear door (the front door is typically locked/no parking). From Route 9A, with the Hawthorne Home Depot at your back, proceed East on Dana Road about 2/10 of a mile, past 4 Dana Road, and turn right on Walker Road. Park in the long lot on the right and go down the outdoor stairway, pass the trailer, turn right (twice) and enter through the outside door for Classroom #3. Handicapped access is available at the training level- just park in front and use the security phone or call me on 732-693-4504.



## Vast Archive of FLARC Activities and Info

Members are reminded that we have a large archive of YouTube videos of our previous many years of Kawfee Tawk™ presentations, which cover many aspects of ham radio. Our mostly unsung hero club videographer, Thom W2NZ, has spent thousands of hours of his own time creating really professional quality videos of these 167 presentations. Visit our club YouTube page and you will see all of them listed on the main page, at <http://youtube.FairLawnARC.org>

Another large and rather unused archive is that of our seven years of the club newsletter, The Resonator. They provide a nice historical record of the many activities of FLARC over the years, as well as lots of useful info about ham radio and electronics. The entire archive is at <http://newsletters.FairLawnARC.org>

And don't forget the FILES area of our groups.io website, where useful and important info is saved:

<https://fairlawnarc.groups.io/g/main/files>

## Renew Your ARRL Dues... Send Free Money to FLARC!

The ARRL has a great program to support affiliated clubs in that it sends part of your dues back to the club if you renew through the club.

So... when you get your ARRL renewal, send both your check and your renewal application to our trusty Treasurer, who will take care of getting your renewal to Newington and a fat check for \$5.00 back to FLARC.

Nothing can be simpler...  
you just have to remember!!

Print and use the  
form on page 26  
of this issue of  
The Resonator



## Club Apparel — Get Them While They're **RED**!

Club apparel is always in vogue. Red is always "in" and your club friends all have them... you *want* a shirt or jacket for the next FLARC event! Great for Field Day!

Don't forget.... they're easy to order. Go to [www.hamthreads.com](http://www.hamthreads.com) or visit <http://apparel.FairLawnARC.org>

**Check out the item selection that is posted on the FLARC website (with pictures and prices).** Order the shirts or other items you want with either the regular FLARC logo or the still-cool 60th anniversary logo. Note: **RED** is the primary and preferred club standard shirt color.

And why not WEAR your nice red shirt when you come to the club, especially for meetings and events.



It's easy to spot FLARC members  
wearing their red club shirts !

## Ham Radio Is Contagious And It Won't Make You Sick!!

### 2024 FLARC Net On The W2NPT Repeater:

*Near and Far Net • Mondays at 8PM*

*W2NPT Repeater and EchoLink*

**Special Note:** As non-profit, the IRS now requires that we disclose annually the use of paid lobbyists to our members and indicate approximately what percentage of their dues goes toward that. 0% of your dues payment will be used by the club to directly pay a lobbyist firm to lobby on behalf of all our members regarding pending legislation that impacts our hobby.



**NEWHAMS.INFO**

Training, information, and encouragement for new amateur radio operators.

<https://newhams.info/>

#### BEQUEATHS AND DONATIONS

Planned gifts usually imply the family donation of amateur equipment to the club when someone has become a Silent Key. But it can be more. Club members might consider making a gift through a will or trust; gifts that help provide lifetime income to the club. Consult with your lawyer, estate planner or tax advisor if you feel such a gift is worthy.

## About The Club

*The Resonator* is published monthly and is the official (and only) newsletter of The Fair Lawn Amateur Radio Club. FLARC was established in 1956 and has met continuously since inception. **The club is sponsored by the Borough of Fair Lawn.** The club meets every Friday, except when a Business Meeting is scheduled, at 6PM at the club station in The Fair Lawn Community Center, 10-10 20th Street, Fair Lawn, NJ. Business meetings are the first Friday of the month at 7:30 PM at the Fair Lawn Senior Center, and on Zoom.

Visitors **ARE ALWAYS** welcome at our meetings.

FLARC operates the W2NPT repeater (145.470- PL167.9) located high atop the Community Center. The analog repeater is open to all amateurs for use without restrictions.

The club has nearly two hundred paid members.

Dues are currently       \$25 per year;  
                                      \$20 for new members.

For more information, please see our website, at

<http://membership.FairLawnARC.org>

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Thanks!  
for your  
Support!!

**This is YOUR club.... Be a part of it !!**

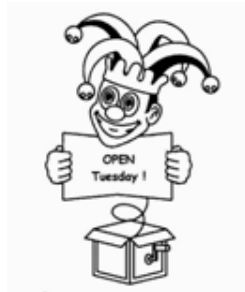


**FAIR LAWN'S  
COMMUNICATIONS CENTER!**

***With Our Antennas On The Roof!***



## Pop-Up Tuesday Happenings



## Pop-Up Tuesday

Tuesdays at 19:00 ET

LIVE at the club!

July 9<sup>th</sup> —

We need to figure out why it is mostly just the 'old timers' who come to the station to operate (and chat) ...

4 or 5 of our new members do show up and show interest ... though only two were there tonight...

Eddie came to me and wanted some guidance on starting up and using position 2, so we went through the printed startup procedure, found a glitch -- so covered some troubleshooting / debugging logic -- then found out that he'd clicked on the wrong desktop icon (and the one he clicked was mis-configured, so it got poofed...) and we also did a session on hooking up the cables at the antenna panel.

And once all was working, we covered operating procedures and tips ...

— Noel W2MSA

FLARC July 20, 2024  
VE Testing Results

With VE testing back on schedule, Gene W02W reports the following results:

Name	Call	License Earned
Jeremy Hughes	KE2DUQ	Technician
Brian Munson	KE2DUW	Technician
Joel Finnerty	KE2DUU	General
Edward Diaz	KE2DVO	General

Testing for next month will be at the Fair Lawn Recreation Center.

Eleven Special Interest Groups [SIGs]  
Already Formed: Any Others?

Club interest continues to grow in the SIGs.

Another recently formed SIG is for those interested in Raspberry Pi and Arduino projects, but now includes DoItYourself (DIY)/Makers kit building, 3D printing and similar topics.

A list of all of the current SIGs is shown on page 8.

Other possible groups, from the member survey, include:

- Radio Propagation
- Antennas and how they work
- Ham radio software
- Technical assistance to club members

Anyone interested in leading any of these groups...?

Please contact [webmaster@FairLawnARC.org](mailto:webmaster@FairLawnARC.org)



## Around the Shack

– Hal Kennedy N4GG

### Dipole Length

There are benefits to deep-diving into what seems like a simple subject. A ham radio example is determining the length of a dipole. Dipoles are among the simplest and most ubiquitous antennas we use. Old timers have built many; newcomers may be contemplating their first one.

*Around the Shack* reaches a diverse audience – I hope there is something here for everyone. This month's column isn't just for novices. I'll highlight something that I, an old old-timer, had been oblivious to for most of my 63 years on the air.

Not included here is a description of how dipoles work. I suggest however that everyone read up on the subject. Why? The more you know about how antennas work the better your choices will be. Choices, including which ones you need or want, and how to make them as efficient as possible. Not just electrically efficient either. Efficient with respect to the use of resources. How much space? How much coax and resulting signal loss? Tower height or no need for a tower? How much time to build it and erect it? Cost, what about cost?

Most old-timers, myself included, jumped into the world of antennas by building some. We saved understanding what we were doing for later. For some of us, 'later' has yet to arrive. For my early dipoles, I found the lengths I needed in a table in the *ARRL Antenna Book*. Van, W2DLT, gifted me the book on passing my novice exam many years ago. It was the perfect gift – thanks Van!

Then, as now, a thorough discussion of how antennas work was in the front of the *Antenna Book*. I jumped into the middle of the book – I just wanted to get on the air. The *ARRL Antenna Book* is still your best resource for understanding how antennas work. There is also, of course, plenty to read on the internet.

*Dipoles are one-half wavelength long*, as are the driven elements of Yagis, *in free space*. When not in free space, however, “one-half wavelength” is only an approximation. The ground, nearby objects and in the case of a Yagi the other elements will shift the resonant frequency. We can use an antenna tuner to match an off-resonance antenna, but as the SWR on a transmission line goes up, the losses go up. Also, antenna tuners themselves add loss. It's best to have antennas that are resonant.

This brings us to the question of how best to determine the length of a dipole. At this point let's make a distinction between *planning* a dipole and *making* one.

I know of four methods to determine the length, but which method is best depends on whether we are in the planning stage or the building stage.

The four methods in order of increasing accuracy:

- Use the name of the band
- Scaling
- By formula:  $468/f$
- Modeling

Method 1: Use the name of the band What do the words “the 40-meter band” actually mean? For most of my ham career I not only missed the answer to that question, I missed the question altogether. Here's the answer: On 40 meters, one wavelength is 40 meters. Oh... !

The number 40 in “40 meters” isn't a dimensionless quantity, it's a length. It's the length of the wave, i.e.: wavelength.

If one wavelength is 40 meters then a half-wavelength must be 20 meters. That's the length of a 40-meter dipole – 20 meters. If you prefer feet to meters, a rough conversion is to multiply meters by three. A half-wavelength dipole for 40 meters is approximately 60 feet long (20 meters X 3 = 60 feet), or 30 feet on each side of the center insulator.

Multiplying by 3.3 instead of three is a more accurate conversion. Sometimes multiplying by 3.3 can be easily done in your head, other times not. If each side of a 40-meter dipole is a quarter-wavelength long, i.e., 10 meters, then the length is easy to calculate. It's  $10 \times 3.3 = 33$  feet.

When is this rough approximation method useful? Answer: In the planning stage.

I'm frequently thinking about antennas. Sometimes I'm doodling on graph paper; other times I'm assessing what's physically possible. At that stage I use first-order approximations for wire lengths. The refined analysis needed to build the antenna comes later.

Here is a current example. I've been pacing the distance between trees in the back yard, looking for supports for new antennas. I own a 100-foot tape measure, but beyond 50 feet it's more of a nuisance than a help when working in the woods. Pacing is

Continued on next page.

## Around the Shack, Continued

relatively easy and good enough. The trees I'm looking for to support a 40-meter dipole need to be 60 feet apart, plus an additional 15 feet (more or less) for supporting ropes at the ends. At the planning stage, precision beyond a rough approximation is unnecessary. "Half of 40 meters times 3 equals 60 feet" is good enough.

I start the same way when modeling antennas. To model a 40-meter dipole, I set the wire lengths to 33 feet on each side of center, and then go from there. If the radiation pattern or SWR doesn't look right, I tweak the wire lengths to improve the model's accuracy.

While I believe using the name of the band to determine length is adequate for planning purposes, it's important to know how large the errors are when using this method.

Table 1 shows the errors in using the name of a band to determine length. The first column is a list of the commonly used HF and VHF/UHF bands. The second column shows the resonant frequency of a dipole whose length is determined by the band's name in column one. The third column shows the band edges for each band. Column four shows the center frequency for each band. The last column shows the error in length for this method as a percent of the band's center frequency, using the formula  $L=468/f$  (see method 3) as a reference.

Table 1				
Error using band names (dipole in free space)				
Band Name Meters	Resonant F Using Name MHz	Band Edges MHz	Band center MHz	Error % of band center
160	1.757	1.8-2.0	1.90	7.5%
80	3.514	3.5-4.0	3.75	6.3%
40	7.027	7.0-7.3	7.15	1.7%
30	9.369	10.1-10.15	10.13	7.5%
20	14.054	14.0-14.35	14.35	2.1%
17	16.534	18.068-18.168	18.12	8.7%
15	18.739	21.0-21.45	21.225	11.7%
12	23.423	24.89-24.99	24.94	6.1%
10	28.108	28.0-29.7	28.85	2.6%
6	46.847	50-54	52.00	9.9%
2	140.541	144-148	146.00	3.7%
0.7	401.544	420-450	435.00	7.7%

Take a close look at the table. Note that for some bands, the resonant frequency of a dipole where the length has been determined by the band's name, isn't even in the band! The band edges for 15 meters are 21.0 and 21.45 MHz.

A dipole whose length is derived from the name "15 meters" is resonant on 18.74 MHz, which is closer to 17 meters than 15 meters. That's a lot of error.

Next, study the right-hand column. On 40 meters, the error in using the band's name is less than 2%. Thirty-three feet on each side of the center insulator is accurate enough to proceed to building an antenna. Now look at 15 meters. The band's name produces a length that is in error by more than 10%. In this case the design needs to be refined before starting construction. Note, also, that the table is for an antenna in free space.

***As we move from free space to real-world proximity to the ground and other objects, errors increase.***

Here's the conclusion for using Table 1:

The names of the bands are okay for planning antennas but not for building antennas.

Method 2: Scaling If you know the length of an HF dipole for any of the non-WARC bands, you can figure out the length for the others in your head. Most of us have a least one dipole length memorized. For me it's 40 meters. From experience, I know a 40-meter dipole is 66 feet long. The original HF bands were set up as multiples of each other. If you know a 40-meter dipole is 66 feet long, than an 80-meter dipole is twice that – 132 feet long. A 160-meter dipole is twice an 80-meter dipole – 264 feet long. The length of a 20-meter dipole is half of 66 feet. A 10-meter dipole is half that of a 20-meter dipole or a quarter the length of a 40-meter dipole. If you know one band, you can do the other non-WARC bands in your head.

[The "WARC" bands (60m, 30m, 17m, 12m) are not multiples of the original ham bands.]

The scaling method only yields approximations, but if the starting point is reasonably accurate then the result from scaling will also be reasonably accurate. Things fall apart for me when I'm thinking about dipoles for 60, 30, 17 or 12 meters. Fifteen meters is challenging too until you realize that a 15-meter dipole is one-third the length of a 40-meter dipole. It's 11 feet on each side. For the WARC bands I usually revert to method one and use the name of the band.

For me, scaling is not useful above HF. I can't scale from 40 meters to six meters, two meters, or 70 cm in my head. For VHF I revert to method one – I use the name of the band. One wavelength on two meters is

Continued on next page.

## Around the Shack, Continued

two meters. A dipole will be half that – one meter end-to-end or one-half meter on each side. Converting to feet, a two-meter dipole is three feet in length, or 18 inches on each side. In the case of two meters, three feet is close enough. A three-foot dipole will have a low SWR from 144 to 148 MHz.

At VHF the preference is for ground planes (GP) over dipoles. The radiating element of a GP is half that of a dipole, i.e., one-quarter wavelength in length. A two-meter GP is approximately 18 inches tall.

Why would we want to know the approximate length of a VHF antenna rather than knowing it precisely? It's the same situation as pacing the distance between trees in the woods – just with smaller dimensions. I made use of method one in my attic recently. I checked the attic for enough space to install a six-meter GP. I also checked to see if a two-meter GP would fit in a small crawl-space. I didn't have my cell phone in my pocket – which was what was needed for accurate calculations (see method three below), but I didn't need the accuracy.

**Method 3: By formula:  $(468/f)$**  We can skip mental math and directly calculate the length of a dipole. Here's the formula:  $L = 468/f$ , where  $L$  is the length in feet and  $f$  is the frequency in MHz. For 40 meters, if we use 7.15 MHz as the frequency of interest, then the length of a dipole is  $468/7.15 = 65.4545$  feet. This begs the question of how much precision is enough. For walking in the woods, two significant digits is not only all that's needed, it's all that's wanted. No one walks 65.45 feet. For building a dipole I'd suggest three significant digits is all the precision that's usable. Standard practice for building dipoles is to make them too long, then trim the ends until the resonant frequency is where you want it. Doing it that way, of what use is four or five place precision?

The  $468/f$  formula is easy to use and has advantages over the first two methods. If you can remember 4-6-8 you are all set. If not, you can store the formula in the notes folder of your cell phone. The calculator app on your phone will do the math.

An advantage of method three is that it uses an exact frequency rather than the approximation inherent in using “the 40-meter band is 40 meters long.” The inaccuracy of using a given band's name grows as the width of the band grows, and name-based wavelengths are typically not centered on the band (refer back to

Table 1). For our widest HF bands, band names only yield a *gross approximation* of length. Ten and 80 meters are examples. Ten meters is 1.7 MHz wide. Eighty meters is 0.5 MHz wide, which doesn't sound like a lot, but *it is* as a percentage of the band's center frequency. A dipole will not cover 3.5 to 4.0 MHz with an SWR of 2:1 or lower. There are, however, work-arounds for that. One is to use a “line flattener” as described in the *Around the Shack* column of October, 2018, and in the book *Ham Radio Tips and Tales*.

Precision during design, followed by accuracy during construction, is in order for antennas that have to be right the first time. “Cut-and-try” is fine for a backyard dipole, but unsatisfactory for a 6-element Yagi on a 100-foot tower. No one wants to take a big Yagi up and down a tower to “dial it in.” Meanwhile, to get a design that works right the first time, we need to move to method four.

**Method 4: Modeling** Most hams do not model antennas, which is a shame. The March, 2022 *Around the Shack* column announced that Roy Lewallen W7EL had retired and begun offering the antenna modeling software **EZNEC** for free. [<https://eznec.com/>] I encouraged everyone to give it a try. Did you? If not, it's never too late to begin and the easiest antenna to model is a dipole.

Modeling is the only method that yields antenna element lengths with accuracy and precision. Modeling accounts for the effects of height above ground, nearby objects including other antennas, ground conditions and a myriad of other things that affect an antenna - things that are not captured by using  $468/f$ .

I hope this is helpful. It's nice to have tools to help plan and build your next antenna.

73, Hal N4GG

## Postscript

The discovery that RF is a wave, and therefore has wavelength, occurred in Europe. That's why, to this day, wavelength is specified in metric units – meters.

Had the earliest RF work occurred in the US or England, hams today would be operating on the 120-foot band (40 meters), the 60-foot band (20 meters), etc. I hope to have a QSO with everyone who has read this far on the 60-foot band sometime soon.



## Theoretics Demystified

This time, in the EVOLUTION OF RADIO, several months ago I wrote brief descriptions of the types of early radio transmitting. But this month I will elaborate on the first type of radio transmission.

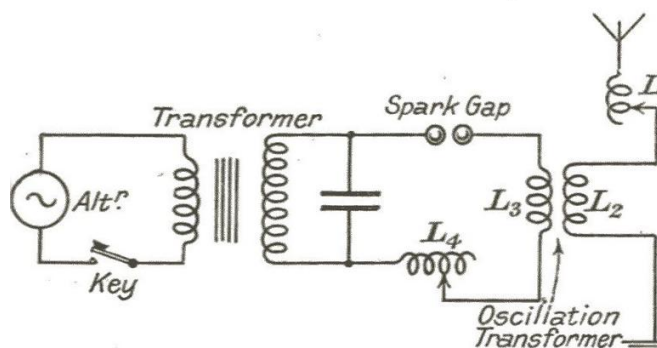
In the beginning there was SPARK transmission. As an example, if you take a small buzzer and battery and connect the battery to the buzzer it will buzz and if you take an AM radio, say a small pocket transistor radio, when you energize the buzzer, you will hear a buzzing sound on the pocket radio!

What you are hearing is the radio frequency energy given off by the buzzer as it rapidly opens and closes its contacts. It is made in such a way that when the armature is attracted to the coil a set of contacts opens and the armature returns to normal; when it does the contacts close and the process repeats. This all happens very quickly so that you hear the 'buzz' and not just one click. The point of all this is, exactly how spark transmission works, except much greater power is used.

The problem with spark transmission is/was that it is extremely wide band – meaning that the spark transmission covered a large portion of the radio frequency band. The other drawback was that to get any high power, large and special equipment had to be used. Because of this something had to be done, as it was almost impossible to have several spark transmitters on the same frequency band.

However, before there were any changes in transmitting equipment [due to the infancy of radio technology] high power needed to be used especially when talking over long distances.

High voltage was necessary to make the spark and current was required to keep it going. Below is a schematic of a simple key spark transmitter.



Copyright material used with implicit permission of the author.

Early spark gap transmitters had the spark continuously firing but this was inefficient [like the buzzer example] and limited by the current the required induction coil could handle. The induction coil was really a transformer which stepped up the voltage to about 10,000 volts.

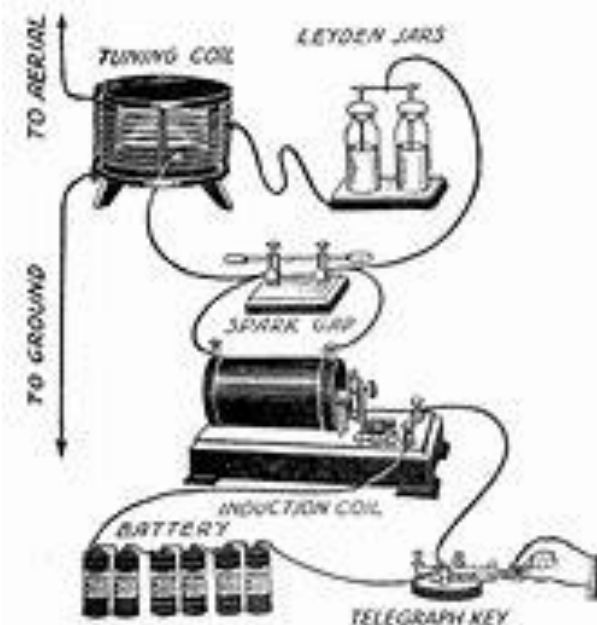
The low voltage from the primary, when the telegraph key was pressed, was stepped up to a high voltage which then produced a spark, and the output of the spark device was tuned by Leyden jar capacitors and a thick conductor tuning coil. This was the simplest spark setup you could have. Improvement by using more refined tuned circuits improved range more than just increasing power.

In an effort to improve spark communication, one of the inventions was the rotary spark gap transmitter.

The rotary spark gap device had a disk with several spark gap terminals and stationary spark gap terminals. The rotary part was turned by a motor and thus produced continuous sparks which were used for transmission, again with the tuned circuits and ground and antenna. These devices were very dangerous and produced ozone and ultraviolet light. They were quite a thing to look at but a recipe for disaster.

Next month we will investigate the next innovations in radio and how they pertain to ham radio.

Fred Wawra, W2ABE, 73.





## FLARC PortableOps SIG

PortableOps@FairLawnARC.groups.io

This is a Special Interest Group (SIG) for members interested in portable ham radio operation such as POTA, SOTA, IOTA, LOTA, etc. The purpose of this SIG is to get outdoors and practice our operating skills from different places. We can share outing experiences, tips and work on our operating skills.

### POTA - Does it have to be HF?

While techs have some phone privileges on 10 meters (28.300-28.500) the band might not always be cooperating. What's one of the first pieces of radio equipment just about every new ham purchases? An inexpensive dual band HT.

*Parks On The Air* has taken off like wildfire and for good reason, it's fun. But it is a predominantly HF driven activity, but that doesn't preclude operators of all classes from getting out there on the upper bands.

On a few occasions I have activated parks ONLY using 2 meters and above. Once from Garret Mountain US-6462, another from Palisades Interstate Park US-8319, but most memorably from atop Bear Mountain US-2010 (2-fer with US-4556). I was out on my motorcycle and had my HT with me.

I originally wanted to go to the top of Perkin's Tower but the rangers had just closed it. So I picked a spot with a bench on the summit, dialed up 146.520 and started calling CQ.



Needless to say doing such an activation requires elevation, so give yourself every bit of help and go to a park with some height. While activating on HF I also usually wrap up each outing by calling out on 2m,

1.25m, and 70cm for any locals. Also I believe it helps get the word about POTA out there. Keep in mind that where you are might also qualify for *Summits On The Air* – the Bear Mountain outing did. SOTA does have slightly different rules than POTA, so check up on those as well.

If you're interested just remember that repeaters cannot be used, simplex only. There is a caveat to that, satellite contacts are allowed. So whether you use a HT, a mast mounted beam, or your mobile radio it can be done. Also, it's fun. If anyone has any questions just ask.



FLARC has a large and active portable ops group.

Video of my Bear Mountain HT activation can be found on my YouTube channel:

[https://www.youtube.com/results?search\\_query=Taylor+Ham+Radio](https://www.youtube.com/results?search_query=Taylor+Ham+Radio)

— Chris Kerrigan - KE2NJ

### “CONGRATULATIONS VAN!”

When heading back to NJ from picking up the club antennas from PA, we took advantage and did a POTA activation at Big Pocono Mountain State Park US-1333.

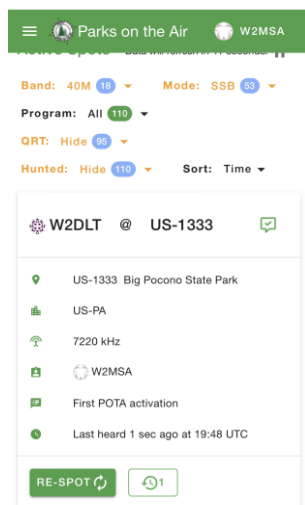
Our main goal was to get Van his first POTA activation. We started him off on 40m phone. Things started off a little slow, but once the calls started rolling it was nice to see a big smile on his face.

Thanks to Steve WI2W for setting up his station at the park, and allowing all of us to get to get on the air. We made many contacts and had a great time.

Continued on next page.



## Portable-Ops SIG, cont'd



Before leaving the park, Steve WI2W introduced a curious spectator who was walking by. After we showed him what we were doing, he was amazed at all the contacts we were making from the park.



Then Steve did a little exploring up the hill from us and found members of the "Eastern Pennsylvania Amateur Radio Association" at the upper level of the park.

They were holding their annual "antenna day" weekend. They had two stations setup with many antenna setups for testing and experimenting. It's always nice running into other ham radio operators in the field.

Thank you Steve for making our activation even more exciting. Great times with Great friends!

73,

Noel W2MSA  
Van W2DLT  
Steve WI2W  
Nomar NP4H

## New antennas for the club

We took a trip on Saturday to pick up the antennas for our club station from Wayne W3EA in Alburtis PA.



Wayne was very welcoming and gave us all the hardware, documentation and advice we needed to put this antenna together. Wayne has a beautiful property that most of us dream about.



Before leaving, he gave us a tour of his station which covers 160-6m, he originally had four towers and recently downsized to three towers without compromising coverage of the HF bands.



Thank you Wayne, we will update you once we get the antennas up in the air. Special thanks to Steve WI2W for providing the transportation.

73,

Noel W2MSA, Van W2DLT, Steve WI2W, Nomar NP4H



**Review:****QRP Rig for SOTA, POTA & hiking**

By Ken W2SCT

POTA [Parks on the Air], SOTA [Summits on the Air] and many hiker and just 'let's get portable and operate HF' type hams are always looking for little, compact rigs with lots of features and low price.

The QRP Labs QMX is a multimode, feature packed QRP transceiver. It is the design of Hans Summers G0UPL.

QMX comes in 3 versions:

80-20 m,  
20-10 m and  
60-15 m.

The modes are CW and FSK digi. It has CW memory, built in sound card, built in SWR bridge, among other features. Power output is 3-5 watts using either a 9vdc or 12 volt dc power supply. It comes either as a kit or assembled.

Future firmware updates may include SSB. The price ranges from \$102.47 - \$172.47 not including shipping. The price differential is whether the radio comes assembled and/or has an enclosure. [W2JC note: unless you really want a diy project, I strongly suggest buying the assembled version – it is tested and working! And well worth the slight extra cost. However, I can attest that QRP Labs' assembly instrux are even better than Heathkit's... and their QRPLabs@groups.io has the inventor and lots of experienced users who discuss future features and help solve any problems.]

Optional GPS is also available. The radio is about the size of a deck of cards. I am predominately a CW operator and have paired this radio with the BaMaKey TP-III. The CW experience is outstanding due to the absence of a T-R relay, making operation quiet and smooth. With roughly 4 watts, I have hunted many POTA activators on CW with remarkably good signal reports.

Recently, I have paired this radio with my Evolve laptop computer for FT8 and the process was seamless. It literally took me 10 minutes to set up and make a contact. I cannot say that for other radios in my shack.

I wondered if there was a way to pair an iPhone or iPad to this radio and it turns out there is. There is an app called iFTx which is available on the Apple app site for \$1.99. The app will do both FT8 and FT4. There are multiple ways to use this FT app and your phone [instead of a laptop] as per the instructions —

**1. No interface:** put your phone next to your radio's speaker and mic and use the phone's built in speaker and microphone. This requires a VOX capable radio and a quiet environment.

**2. Build a custom cable** between your phone's phone jack and your transceiver. Make sure to have 2k2 resistor [2000 ohm] between mic input and ground on the phone side, to make your phone believe it is connected to a headset. This requires a VOX capable radio.

**3. Use a suitable cable or adapter** e.g. Apple Lightning USB camera adapter, or a USB-C to mini/micro-USB cable for iPads with USB-C connector. Make sure the power requirements can be met by your iPhone or iPad.

I ordered a camera adapter from Amazon for around \$7.00, which enabled me to connect my iPhone XR to the QMX. The lightning to USB camera adapter from the iPhone was connected to a USB to USB-c cable and plugged into the QMX. I successfully made contacts with this configuration. I was also able to use my iPad mini with a USB-c (iPad mini) to a micro USB adapter (QMX) and have also made contacts this way.

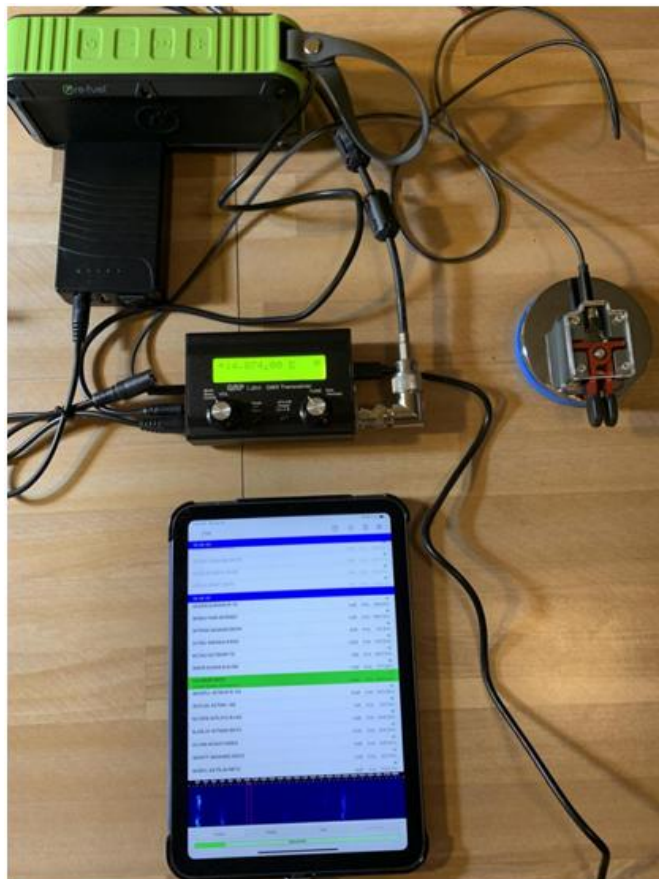
The QMX is a fantastic radio at a fantastic price (less than \$200 delivered). I hope to attempt some QRP POTA and possible SOTA activations with this radio.

<https://qrp-labs.com/qmx>



More photos on next page.

## Qmx Review, continued.

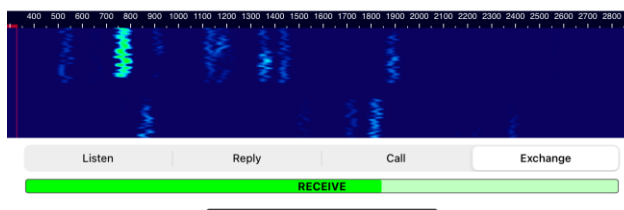


Simple digital setup with power module, QMX, key, and iPhone.

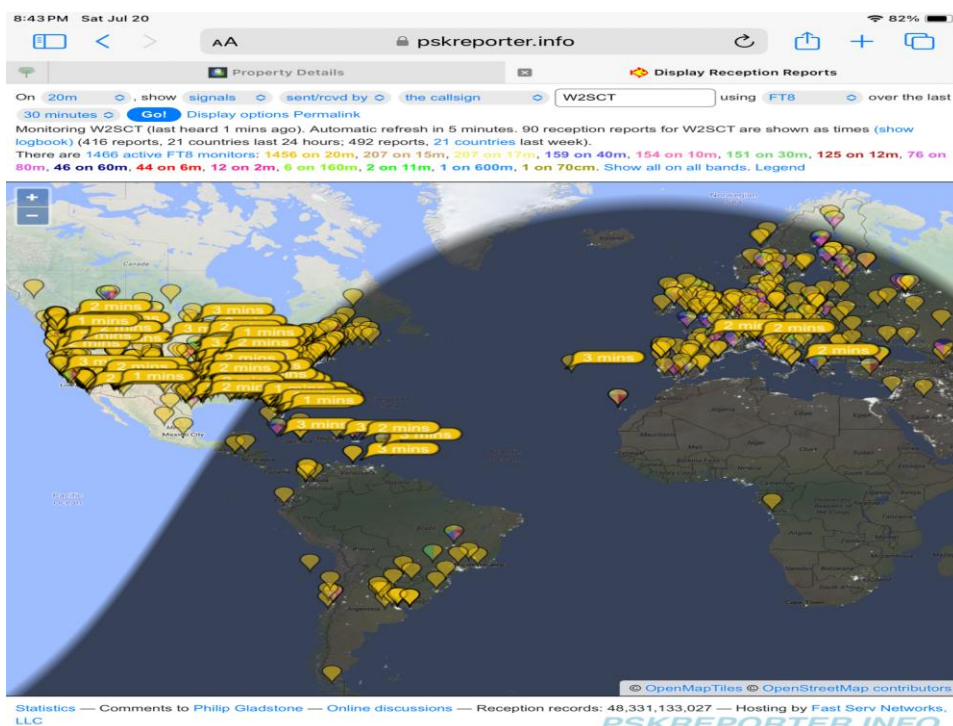
3:03 PM Sat Jul 20 70%

FT8

CQ KB9ELS EM46	19:00:58	9dB	0.5s	865.6Hz
United States Of America				
KB9ELS W2SCT +09	19:01:15			852.3Hz
KB9ELS W2SCT +09	19:01:30			852.3Hz
KB9ELS W2SCT +09	19:02:00			852.3Hz
W2SCT KB9ELS R-01	19:02:28	8dB	0.4s	865.6Hz
United States Of America				
KB9ELS W2SCT RR73	19:02:30			852.3Hz
W2SCT KB9ELS 73	19:02:58	7dB	0.4s	865.6Hz
United States Of America				
Finished	Logged			



Main Screen of iFTx on iPhone While Making a Contact using QMX.



PSK Reporter Shows Good Distribution With Only 4 Watts



## DX Special Interest Group Update



**PR5MAT** Confirming QSO: **PR5MAT**

ITU Zone 15 Grid: GG54RE CQ Zone 11

ACTIVATION MATINHOS CITY  
HERMINIO VALINAS. 165  
PARANAGUA - PARANA - BRAZIL  
GG54RE 15 11  
57 YEARS OF MATINHOS  
PR5MAT@QSL.NET

Special activation callign for the  
57th anniversary of the founding of the city of Matinhos

Support: ARPA Araucária DX group

Estation: W2NPT Date and Time: 18/06/2024 23:49 Frequency / Band: 21.075800 15m Mode: FT8 RST: -01

The final courtesy of QSO 15% QSL unopr.com.br

**RADIO CLUB DOMINICANO**

Radio Club Dominicano  
PO BOX 1157  
Santo Domingo - 10101 - Dominican Republic  
FK58ak 11 8  
hi8red@hotmail.com

PayPal Dealx Now

**HI98RCD**

Estacion: W2NPT Fecha y Hora: 18/06/2024 22:33 Frecuencia / Banda: 21.074425 15m Modo: FT8 RST: +18

CQ Zona 08 - ITU Zona 11 - Grid FK58ak - IOTA -NA-096

## HAMSPEAK

[relating to very early radio]

### LEYDEN JAR

An early capacitor made by having a jar with foil on the outside and on the inside and using an insulated lid, and a terminal with a chain that laid on and connected to the foil on the inside. The outside foil was connected by having the jar resting on a metal conductor.

### INDUCTION COIL

An early term for a transformer. In the case of spark coils, it was usually a cylindrical coil (with an iron center to enhance the magnetism) consisting of a primary wound with thicker wire to carry the current, and a finer wire as a secondary (wound over the primary) that stepped up the voltage into thousands of volts at a lower current.

### SPARK GAP

A set of contacts designed to be at the right distance from each other and the right shape to better produce the plasma igniting spark that produces radio waves.

### TUNED CIRCUIT IN A SPARK TRANSMITTER

A combination of a capacitor [Leyden jar in early spark transmitters] and a tuning coil which consisted of heavy gauge flat wire arranged as a spiral coil. This circuit was on the high voltage side of the spark transmitter. One end connected to the antenna and the other to ground.

Fred Wawra, W2ABE, 73.

## Ham Radio Generated Data - HamSCI Festivals of Eclipse Ionospheric Science

	2017 (1)	2023 (2)	2024 (3)
Count of Hams Submitting Logs to HamSCI	566	287	601
Count of Ham Data Points Contained in Those Logs	29,809	760,853	1,157,123
'Super set' of data points recorded on eclipse days (Encompasses all ham radio activity recorded during the event - Including participants and non-participants)	~2,570,000	~7,000,000 (4)	~52,000,000
(1) 2017 SEQP results, from <a href="https://hamsci.org/article/seqp-2017-contest-results-announced">hamsci.org/article/seqp-2017-contest-results-announced</a>			
(2) Source: 2023 GSSC and SEQP results, <a href="https://hamsci.org/foeis-results/">hamsci.org/foeis-results/</a>			
(3) Source: 2024 GSSC results, <a href="https://hamsci.org/foeis-results">hamsci.org/foeis-results</a> and SEQP draft results (awaiting publication)			
(4) I strongly suspect this is an undercount - I don't have ready access to all of the on-line databases which collect ham radio data			





## ELECTRONIC DUES PAYMENTS ARE NOW AVAILABLE!



**FLARC dues, new and renewal — and even donations! —  
can now be made on-line ...**

Until permanent arrangements can be made, several fiduciaries of the Fair Lawn Amateur Radio Club have graciously agreed to forward electronic payments to the Club's bank account. Payments can be made using either PayPal or Zelle account.



- Log into your PayPal account
- Locate the Send Money function
- Use the following email address as the recipient:  
[1947xyzabc1947@gmail.com](mailto:1947xyzabc1947@gmail.com)
- Enter the appropriate \$ amount for your dues
- In the notes section, include your Call Sign and what year(s) the dues are for
- When prompted, indicate that you are "Sending to a friend"
- Log into your Zelle account
- Use the following phone number as the recipient: 201-240-9317
- In the notes section, include your Call Sign and what year(s) the dues are for

Once complete, you may – for added assurance - send a screenshot to  
[treasurer@FairLawnARC.org](mailto:treasurer@FairLawnARC.org)

– please be sure to redact any personal information –  
(e.g. bank account number, balance, etc.)

**For both new and renewal, please complete the Membership Application form at**  
<https://FairLawnARC.com/membership.pdf>  
with your current info and either give it to a club officer  
or mail it to the address on the form.

For additional information on club membership, visit  
<http://membership.FairLawnARC.org>

Visit the club website at <http://FairLawnARC.org> for info about the club,  
club activities, club history and our club 2-meter repeater.

For a PDF form that can be filled in on-line, then printed and mailed with check, [CLICK HERE](#)

Or you can print this page, fill it in and mail to the address shown at the bottom.



## Fair Lawn Amateur Radio Club

*Fair Lawn Recreation and Community Center  
10-10 20th Street  
Fair Lawn, N.J. 07410*

### MEMBERSHIP/RENEWAL FORM

Name \_\_\_\_\_ Call \_\_\_\_\_  
Address \_\_\_\_\_ PO Box \_\_\_\_\_ Ste./Apt # \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Roster Published Phone # \_\_\_\_\_ Unpublished Phone # \_\_\_\_\_  
Roster Published EMAIL \_\_\_\_\_ License class: \_\_\_\_\_

Check all that apply      ARRL Member ?      RACES Member ?      ARES Member ?      CERT ?      VE ?

Additional Family Members (In same household) --

Name \_\_\_\_\_ Call \_\_\_\_\_

Name \_\_\_\_\_ Call \_\_\_\_\_

Introductory and Student Membership      \$ 20      \$ \_\_\_\_\_  
(Students under the age of 18 eligible for student membership)  
(Introductory membership open to new members  
or not a member in last 7 yrs)

Associate Membership \*      (No Fee)  
\* Open to Fair Lawn Residents Only. No voting rights or other privileges.

Renewal of Current Membership      \$ 25      \$ \_\_\_\_\_

Three Year Renewal Incentive      \$ 65      \$ \_\_\_\_\_

(Single memberships only, family memberships excluded)

Additional Family Members    # \_\_\_\_\_ at      \$ 5 each      \$ \_\_\_\_\_

Life Membership      \$ 625      \$ \_\_\_\_\_

Senior Life Membership (65 yrs. of age or over)      \$ 250      \$ \_\_\_\_\_

Equipment Fund Donation, above regular membership dues      \$ \_\_\_\_\_

Total submitted      \$ \_\_\_\_\_

\_\_\_\_\_ Date \_\_\_\_\_

I hereby acknowledge the By laws and rules and regulations of the club and will abide by them as amended

Please Note: Memberships are NOT Pro-Rated. Membership is from Jan 1<sup>st</sup> to Dec. 31<sup>st</sup> of any given year unless documented otherwise.

Please make your dues check payable to the "Fair Lawn Amateur Radio Club" and remit to the following address:

**Fair Lawn ARC  
– Attn: Treasurer  
10-10 20<sup>th</sup> Street  
Fair Lawn, NJ 07410**

Complete this form for NEW or RENEWAL ARRL membership and give to FLARC Treasurer [David Gotlib KD2MOB] with your payment check.



## Membership Application

☐ New ☐ Renew ☐ Previous Member ☐ Unlicensed

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

Email \_\_\_\_\_ Phone \_\_\_\_\_

Date of Birth \_\_\_\_ / \_\_\_\_ / \_\_\_\_

**My Family Member is Joining or Renewing: (\$12 per member)**

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

☐ Please note my new address ☐ I do not want my name and address made available for non-ARRL related mailings

### Your Annual Membership Dues\*

Circle Your Choice (rates effective Jan. 1, 2024)

	1 Year	3 Years
Standard membership	\$59	\$174
Family (same membership exp. date and address)	\$12	\$36
Student (must be under age 26)	\$30	
Blind (requires one-time statement of legal blindness)	\$12	\$36

### Add-on ARRL Subscriptions

**QST**, ARRL's membership journal for active radio amateurs.

☐ 1 Year \$25\* ☐ 3 Years \$75\*

**On the Air**, For beginner-to-intermediate-level radio amateurs.

☐ 1 Year \$25\* ☐ 3 Years \$75\*

### Member Benefits

Your membership supports benefits, services, and programs that keep you active and on the air.

#### Membership Includes:

- Access to four digital magazines and archives (*QST*, *On the Air*, *QEX*, & *NCJ*)
- Unlimited courses through the ARRL Learning Center ([learn.arrl.org](http://learn.arrl.org))
- Logbook of The World®, contests, and award programs

...and more!

\*A print subscription for *QST* and/or *On the Air* requires an ARRL membership. Dues and subscription rates are subject to change without notice and are non-refundable

### Payment Information

\$ \_\_\_\_\_ Total Charge to: ☐ Visa ☐ MasterCard ☐ AmEx ☐ Discover ☐ Check Enclosed

Card Number \_\_\_\_\_ Expiration Date \_\_\_\_\_

Card Holder's Signature \_\_\_\_\_

Toll Free (US) 1-888-277-5289 or 860-594-0200 • ARRL, 225 Main St., Newington, CT 06111-1400

[membership@arrl.org](mailto:membership@arrl.org) • [www.arrl.org/join](http://www.arrl.org/join)

CLUB  
form rev 1/24



**August 2024****FLARC Business Meeting**

FAIR LAWN AMATEUR RADIO CLUB  
 MINUTES BUSINESS MEETING  
 Fair Lawn Senior Center  
 August 2, 2024

The Club's President Fred KR2H called the meeting to order at 7:30 PM.  
 At his request the members present in person rose and recited the Pledge of Allegiance.

The President then asked the Club Secretary Jim W2KNG to call the role.  
 The Secretary called the following :

President,	Fred	KR2H	Present
Vice President	Robert	KD2SOG	Present
Treasurer,	Dave	KD2MOB	Present
Secretary,	Jim	W2KNG	Present
Trustee,	Van	W2DLT	Present
Trustee,	Brian	KD2KLN	Present
Trustee,	Judith	KC2LTM	Present (by Zoom)

The Secretary confirmed to the President that a quorum existed in order for the meeting to proceed and business conducted.

The President then asked for a motion to approve the minutes of the meeting held July 12, 2024, as published in the July Resonator. Upon motion made by Nomar NP4H and seconded by Brian KD2KLN the minutes were unanimously approved.

The President then asked the Treasurer, Dave KD2MOB to give the Treasure's Report. Dave gave the various account balances. He also reported that at the moment there were 140 paid members, including 3 new members. He pointed out that 2025 was just around the corner so shortly he will start accepting dues for 2025. The main expenses in July were the WiFi hot spot and the ongoing antenna project. Upon motion duly made by Nomar NP4H and seconded by Brian KD2KLN the Treasurer's Report was unanimously approved.

The President then reported that the Club had received some radio equipment as a donation from Pat Perna WA2RRH which included an Icom 2 meter transceiver and a Kenwood 2 meter transceiver. The President reported that he has sent Pat a thank you letter. He also reported that in light of all their contributions to the Club over the years the Board had decided to give the Icom rig to Ed WX2R and to sell the Kenwood rig to Nomar NP4H for a reduced price.

The President then reported that planning for the September 7 Hamfest was continuing and there would be communications forthcoming on the Club's Groups.io to all members involved in the planning.

## August 2024

### FLARC Business Meeting, cont'd.

The Tech Committee then gave a brief report. The new Skyhawk triband Yagi and 12 & 17 meter Yagi were picked up Saturday. They arrived in very good condition with everything clearly labeled, manuals and all hardware, including extra hardware. This will facilitate quick re-assembly. Thank you Van W2DLT, Noel W2MSA, Nomar NP4H, and Steve WI2W for picking up the antennas in Pennsylvania.

The Tech Committee is currently checking into contracting a tower climber to remove the Optibeam and install the Sky Hawk and 12/17 Yagi's. This will give us capabilities of operating on more HF bands simultaneously. The Tech Committee will also be evaluating different manufacturers of triplexers and diplexers for the HF antennas. Currently we are using Van W2DLT's triplexer on the Optibeam.

On Saturday August 3 the Tech Committee will be meeting at the Clubhouse to do some investigation on the binding of existing mast. This will help with scope of work for the tower climber and help keep labor cost to as little as possible.

Finally, the Tech Committee stressed that please do not make any hardware or software changes to any of the Club operating positions. Contact the Technical Committee before any changes are made. Noel W2MSA is the station Manager and will make changes or repair positions 1, 3, 4, & 5. Position 2 is maintained by Jim W2JC. If you would like help or training on operating any of the club radios, please contact a member of the Tech Committee so they may schedule a 1 on 1 session with you. The radios are there to be used, so please take advantage of the days when the Club is open.

The Quartermaster reported that he is working with Noel W2MSA the Station Master to make sure the Club has an accurate inventory of all assets. If any equipment is added please make sure the Quartermaster is aware so it may be included in the inventory list. He is also working on cleaning up the downstairs storage area.

The Youth Outreach Committee reported on a request from the Paterson Tech High School for assistance in an ARISS [International Space Station] contact. Ria N2RJ and Steve WI2W will coordinate the effort.

Jim W2JC's reports were read to the meeting. These are as follows :

Webmaster : Recurring events have been programmed to display on the main web page "automagically" for several days before the event. If you want to know what's coming up soon, check the web page at <http://FairLawnARC.org> For more details, and further in the future, check our calendar at <http://calendar.FairLawnARC.org>.

Postmaster : It looks like we have cleared up all the groups.io email bounces. Thanks to Judith KC2LTM for her extensive help with follow-ups. Reminder, groups.io email is the main way FLARC keeps members informed.

## August 2024

### FLARC Business Meeting, cont'd.

Groups.io Manager : Our groups.io not only provides email, it also has a complete calendar of upcoming activities, events and things of interest -- with details and reminder emails. See the calendar at <http://calendar.FairLawnARC.org>.

Zoom Account Manager : The Club zoom account is available for our SIGs to hold meetings, discussions, etc. Just contact [Webmaster@FairLawnARC.org](mailto:Webmaster@FairLawnARC.org) for a meeting setup.

QSL Manager : The club has received a few electronic dx QSLs, which have been posted in the DX channel of our Slack on-line group, and in the upcoming Resonator newsletter. If you work DX from the club, using the club call W2NPT, please be sure to enter the info in the paper logbook that is at each position - print carefully so it can be read by others!

Event coordinator : If you plan an event for the club, or for your SIG, or know of an event of interest to club members please advise [webmaster@FairLawnARC.org](mailto:webmaster@FairLawnARC.org) so he can check for conflicts as well as promote your event.

DX SIG owner : Useful info about DXpeditions, dx stations heard and worked can be posted to the DX SIG on groups.io as well as the DX channel of Slack which is more 'real time'.

FT8 SIG owner : Lots of good info gets posted to the FT8 SIG on groups.io and even better, real time chat of conditions, stations/countries/etc spotted gets posted on the FT8\_FT4 channel of Slack.

W2NPT License trustee : We have been granted authorization to use Special Event call signs K2F K2L K2N K2J for the week of the Fair Lawn 100th Anniversary week. There are some ambitious plans for FLARC participation if we can get members interested.

Dave KD2MOB then gave a report on ARES and RACES. He stated that in the past ARES had reported to the Fair Lawn OEM annually but now a report will be given quarterly. He reminded the members that the ARES net meets on the Club's repeater every 2<sup>nd</sup>, 4<sup>th</sup> and 5<sup>th</sup> (if any) Wednesday at 8:00 PM. Jim N2JLF holds a Northeast New Jersey ARES net every 1<sup>st</sup> and 3<sup>rd</sup> Wednesday, also at 8:00 PM and also on the Club's repeater. The President asked if that could be included in The Resonator so all members would be aware of that.

The President then asked if anyone would be interested in being the Chair of the 2025 Field Day and at the moment no one was forthcoming. Noel W2MSA said he would Chair the 2025 Winter Field Day.

Gene WO2W reported that there were 3 candidates at the last VE Testing Session and all passed. The next VE Session will be held August 17. He is looking into possibly holding virtual VE Session next year. He added that if anyone wants to get involved in assisting in VE Session to please let him know.



## **August 2024**

### **FLARC Business Meeting, cont'd.**

Jim W2JC advised the meeting members that Ed Diaz had finally received his call KE2DVO and is now a full member of the amateur radio community. This was met with a round of applause.

Judith KC2TLM reported that she had sent out only one get well card in July and that was to Jim W2JC.

The President then asked if a full membership roster could be updated by name and call. Jim W2JC noted that the roster was already accessible through the website's groups.Io FILES area. In any event Dave KD2MOB said he would work with Fred W2ABE to put together a definitive roster.

The President then stated that there would be no SIG reports given at this or future meetings. Rather each SIG leader will be asked to submit a report for inclusion in The Resonator. If no report is received for 3 consecutive months the leader will be asked to determine if he or she wishes to be replaced. If there is no response for 30 days after that the SIG will be dissolved. The deadline to submit to the Resonator is the 25<sup>th</sup> of each month.

The President then asked if there were any new business. Dave WO2X reminded the members that the Club had been approached by a film maker about technical assistance for a movie that would involve an amateur radio station. Dave is working with the film maker as a technical adviser to ensure that ham radio is portrayed accurately. However the filmmaker is looking for an actual ham radio station to be used in the movie. If any member would like his or her station to be used in the movie please let Dave know and send a picture of your station. It would involve a couple of days of filming which is currently scheduled for the October 11-13 time frame.

Steve WI2W then took the floor to recognize a FLARC member whose contributions during Field Day were above and beyond the call of duty. He reminded the members that just as the time came to prepare dinner on the grills the heaven opened up and it poured. The Chair of the Food and Beverage Committee, who also served as head cook, stood in the rain bravely trying to grill hot dogs and hamburgers until the coals were extinguished by rain. Undaunted he went home to finish preparing food for the assembled multitude in his own kitchen. For these heroics Skip KD2BRV was presented with formal Chef's Hat which he donned to thunderous applause.

Van W2DLT then reported on the Nominating Committee and asked if any members wished to run for office to please let him know.

The President then reminded the members that at the next meeting time will be set aside for "show and tell" for any projects, antennas or anything connected to ham radio that a member wished to share.

There being no further business on motion made by Nomar NP4H and seconded by Brian KD2KLN, the meeting was adjourned at 8:15pm.

Respectfully submitted  
James P Jalil, Secretary W2KNG